

**DIGITAL TRANSFORMATIONS OF THE LIFE INSURANCE INDUSTRY**

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**ANNOTATION:** the topic is considered relevant, in which the implementation of the types of life insurance in Uzbekistan is analyzed and the need to digitize the process of implementing the types of life insurance.

**KEYWORDS:** life insurance, pension insurance, voluntary health insurance, life insurance companies, digital technology, digitization.

### INTRODUCTION

The emphasis is on ensuring sustainable growth of the economy in Uzbekistan and strengthening the role of life insurance in the national insurance market precisely in the active development of insurance services aimed at improving the quality and standard of living of the population. In order to rapidly develop the life insurance industry in our country, the tasks of "digitalization of the insurance market, development of the life insurance industry and types of personal insurance, increase the level of pension provision of citizens by introducing new types and mechanisms of long-term voluntary pension insurance taking into account foreign experience" are established. In order to ensure the implementation of these tasks, the introduction of long-term insurance products in the life insurance market, the establishment of an insurance ombudsman in order to increase the population's confidence in long-term types of insurance through a legal mechanism and authorized organizations, digitalization of the industry based on experiences after the COVID-19 pandemic, the creation of ecosystems, the development of the life insurance industry through the use of digitized models in the placement of free funds of life insurance companies in investment facilities is becoming more important in the current conditions.

The law of the president of the Republic of Uzbekistan "on insurance activities", decree of the president of the Republic of Uzbekistan "on the development strategy of the new Uzbekistan for 2022-2026" No. 60 PF of January 28, 2022, decree of the president of the Republic of Uzbekistan "No. 4412" of August 2, 2019 "on measures to reform the insurance market and ensure its rapid development, The decision of the Cabinet of Ministers of December 14, 2020 No. 780 "on additional measures to improve the procedure for providing insurance services of electronic type", as well as the study of this dissertation in the implementation of the tasks set out in other regulatory legal acts related to this area, will serve to a certain extent.

### METHODOLOGY

Today, the impact of digital technologies on the insurance market, including the internalization, digitization and individualization of insurance activities, is one of the pressing issues. The analysis of the digital insurance and life insurance market digitization process based on the practical activities of Uzbekistan and foreign insurers on the introduction of digital technologies, including using general scientific approaches and research methods, is one of the main goals of the research work. Definitions of concepts such as "digital insurance" and "digitization of Life Insurance Activities", problem formulation and prospects for the further use of digital technology in the life insurance market have become results of work.

The increase in the volume of production as a result of the introduction of automated and computerized production methods of the late 20th-21st centuries marks the technological changes that are taking place in the organization of the insurance business.

Insurance has experienced several fundamental technological innovations in the process of development stages, in particular:

- the implementation of actuarial calculations has become the basis of modern business;
- the use of the labor of insurance agents that created the basis of mass insurance;
- the use of computers, which simplified the implementation of many business processes in insurance, etc.

Digital insurance is a way of satisfying insurance activities with information technology, in which the traditional or specific (resulting from digitization) needs for insurance protection through digital technologies are considered.

The use of distributed databases and obtaining information about potential insurance insurers and most of the insurance facilities will also lead to a change in the technological structure in the insurance industry and the formation of new insurance services.

To determine the place and role of insurance in the digital economy, it is necessary to consider or substantiate the theoretical foundations of the concept of "digital insurance" from both sides.

First, digital insurance can refer to a part of economic relations due to the existence of insurance interests of organizations and citizens and their satisfaction through digital technologies. In other words, digital insurance is a way to implement insurance protection based on digital technologies.

The aforementioned technologies, although they have been implemented to varying degrees, have found their place in the insurance market. Some of them were implemented in the 1980s-1990s using technological innovations resulting from complete computerization (in the 1990s-2000s, most of the labor functions and jobs in insurance companies were implemented through the use of computers).

Secondly, the active development of digital technologies in the context of a developing digital economy leads to the emergence of new risks, including a new interpretation of cyber risks that have arisen since the 1990s, as well as other risks that may arise during scientific research.

Some of the risks of the digital economy are minimized through the use of insurance mechanisms. Therefore, digital insurance is understood as a way of meeting the needs of policyholders for specific insurance protection due to accidental unpleasant phenomena that occur mainly in the environment of the digital economy and are associated with the use of technological equipment, which is the material basis for the implementation of economic relations.

Previously, these insurance services were called e-commerce insurance, cyber insurance, electronic and computer crime insurance, and other names, while today all of these terms are referred to as "digital insurance" in a unified state.

Digital insurance is carried out in the conditions of a digital economy and is used in life insurance in a digitized system, in the sale of insurance products, in the implementation of the remote insurance process, in the provision of an ecosystem of medical services to insurers in health insurance, in the electronic elimination of insurance phenomena and claims, in the system of chain data exchange between insurance organizations, insurance is used in remote risk management and in the activities of insurance organizations through the use of machine management or artificial intelligence.

## **DISCUSSION**

Digital insurance is therefore a way to meet the traditional or specific (resulting from digitization) need for insurance protection through digital technologies. At the same time, the implementation of insurance activities by insurance companies using digital technologies is defined by us as the digitalization of the insurance market.

During the period of digitization, the world and with it the insurance industry are changing. The covid-19 pandemic was an additional impetus for the transition to the online space of the insurance business, which has enormous development potential in both the world and Uzbekistan.

Taking into account the continuing active phase of the introduction of the digital economy into all spheres of state and public life and the transition of a number of public and private services to work online, since 2021, measures to digitize business processes and develop online sales have been actively implemented by insurance companies operating in Uzbekistan.

Makes the process of buying online insurance simple and convenient, digital insurance solutions (inshurtex) significantly increases the effectiveness of interaction between all market participants: insurance companies, banks, brokers, end-consumers of insurance services, in which, through the application and platform of insurance

organizations, each person can formalize insurance policies using advanced technologies unprecedented in the local market.

Therefore, innovation digital and mobile platforms for the online sale of insurance products have been updated by insurance organizations, as well as a mobile application for insurance agents, through which the sale of more than 10 thousand e-policies in high-demand types of insurance such as health insurance, tourism insurance and Accident Insurance has been carried out.

These measures were developed in terms of development and digitization of the insurance market of Uzbekistan. In its activities, insurance organizations pay special attention to the introduction of digital technologies aimed at improving the quality, attractiveness, efficiency and convenience of services provided to the population.

Insurance organizations also actively work locally and internationally with service providers in the it sector, including inshurtex vendors.

For example, in the development of the human-online application and platform AJ ST, leading the insurance market in terms of online sales, a partnership was established with talented graduates of the Universities of Oxford and Cambridge in the it direction. The activities of Crosure Limited of England are aimed at using modern advances in technology (specifically artificial intelligence, machine learning and network science) to solve problems in existing insurance models.

The planned operation of the platform uses tools for artificial intelligence, machine learning and robotic insurance procedures.

AJ ST" man " is a rapidly developing company in the insurance market of Uzbekistan. In the past underwriting year, the company expanded the branch network to 40 branches, improving reliability rating to A++ level (SNS Ratings), while achieving several times the increase in insurance premium collection, and to this day increased the range of insurance products and the capitalization level of the authorized fund to 37 billion soums. Ўзбекистон суғурта бозорида 2022 йилда суғурта ташкилотлари учун энг муҳим вазифалардан бири аҳолининг электрон сиёсатга оммавий ўтишини таъминлаш, Face ID – мижозларга хизмат кўрсатишнинг биометрик ахборот тизимини жорий этиш, суғурта даъволарини онлайн тарзда тақдим этишнинг интерактив тизимини ишлаб чиқиш эди.

Also, within the framework of the system" mahallabay " was the continuation and radical expansion of work on insurance protection of urban and rural residents in the regions of Uzbekistan, including the use of digital platforms.

Currently, several phenomena are the main rules for digitizing the insurance market, which can be defined as the internalization, digitization and individualization of insurance activities within the framework of the established terminology of the digital economy, the characteristics of which are presented in.

In life insurance, internalization is carried out through the use of the internet in the business processes of an insurance company as a direction for digitizing the insurance market.

"Internetization" has a narrower meaning and involves selling insurance services over the Internet.

The internalization of insurance activities is carried out in insurance companies in the following directions:

- online sale of insurance services;
- Solving insurance claims via the Internet;
- Collect information about insurers through the Internet.

The expansion of internet use by households, businesses and the state leads to new segments of the insurance market, such as cyber insurance, information object insurance, etc.

Factors that contribute to the development of the internalization of the life insurance market are as follows:

- Increase in the number of Internet users and Internet commercial operatives;
- the emergence of legislative norms governing the interaction of the insurer and the insured through the Internet;
- high profitability of selling insurance services online and solving insurance claims over the Internet;
- development of internet sales concept in insurance;
- greater use of Big Data Technologies by insurers aimed at personalizing insurance services, offering them and compensating for damages.

And the factors that prevent the development of Internet insurance are the following::

- high rate of insurance fraud;
- The impact of insurance operas on cybercrime through the Internet;
- lack of a high-quality speed internet system in some regions of our country;
- low confidence in insurance institutions and insurance culture.

Despite more than a decade of Internet insurance history in the national insurance market, there is a continuing debate among professionals about what should be considered as a special channel for the sale of insurance services in Internet insurance. Insurance companies classify the different stages of buying an insurance policy as selling online. Through the Internet on the website of the insurance company, the insurer can carry out the following procedures for purchasing an insurance policy:

- selection of a specific insurance product (insurance service) ;
- acquaintance with insurance rules and legal confirmation of this fact;
- drawing up the necessary documents;
- registration of an application for insurance, a questionnaire, etc.;

- submission of documents necessary for the registration of the insurance policy;
- calculation of the cost of insurance service (payment of insurance premium in the calculator or underwriting process);
- making changes to the insurance contract;
- application for an insurance event;
- obtaining insurance payment.

Today, the provision of new insurance services is carried out by insurance companies through the introduction of mobile applications, that is, special technological solutions for smartphones. Through the use of mobile applications, the following business processes of the insurance company can be carried out:

- obtaining information about the contacts and offices of the insurance company;
- obtaining address offers of insurance services, including information on the extension of current insurance contracts;
- remote resolution of insurance events.

The digitization segment of the life insurance sector in our country is just a process that is being formed. The life insurance sector of Uzbekistan is a much smaller sector than the life insurance sector of the states of the United States, the European Union, China, India, and there are still no long-term types of insurance developed in the industry. This, in turn, makes it difficult for a digitized business in the life insurance sector to be done on a large scale and also raises doubts about the inclusion of investments in digitized projects.

In recent years, the use of large data processing technologies has become increasingly common in the insurance industry. These technologies help to improve the quality of the services provided, help insurance organizations reduce costs and increase the efficiency of activities.

Big data (from the Big Data System) is used by almost all major insurance organizations around the world, as well as consulting and technology companies that provide services in the financial sector.

With the help of such information, it becomes possible for insurance organizations, first of all, to more reliably assess the benefits of insurance consumers, to more accurately assess risks in insurance services and products, to improve their quality, to obtain procedures for combating and combating fraud.

Nevertheless, the use of Big Data (The Big Data System) can pose a number of risks, including systemic risks to the insurance market. Systemic risks can be associated with: model risks that can lead to a mass misjudgement of the financial situation of borrowers, risk of consumer discrimination (in addition to price and price), risk of competition disruption, risk of critical concentration of data suppliers (including Foreign), risk of widespread personal information. In this regard, in recent years, issues

of regulating a large data program in the insurance sector have been raised in different countries of the world.

The term "big data" does not currently have a universally accepted definition. The term is applied to a system of large or complex data arrays and related technologies for their storage and processing (Big Data). These data arrays can have both structured (external and internal databases) and unstructured (social networks, press and the like) forms.

The most common definition of the term Big Data consists of:

- large data is a source of information that meets large criteria, the amount of information that requires efficient, economical and innovative forms of data processing and, as a result, allows you to improve data analysis, decision-making and Process Automation, the high speed of its processing and the diversity of data.

- machine learning – a subcategory of artificial intelligence-is the ability of computer systems to gain knowledge of information and use it to solve problems.

- artificial intelligence technologies are technologies based on the use of artificial intelligence, including computer vision, natural language processing, speech recognition and synthesis, intelligent decision support, and promising methods of artificial intelligence.

Big data and artificial intelligence are closely related. Big data is a source of information for analysis using artificial intelligence. Machine learning, based on technology neural network approaches, often allows you to get the most complete and fast result of large data processing. Here, however, there are some risks associated with the transparency and interpretation of the respective models.

Today, the insurance industry is a leader in the implementation of large data among financial institutions, as well as banks. Many insurance companies are using artificial intelligence and big data to review fraud and ensure compliance with regulatory requirements.

In addition, among the insurance services, insurance of auto insurance and auto insurance liability is carried out in connection with Internet technologies. Telematic tools (black boxes), which, according to the main source of analytical information, allow you to determine the nature of Management in these types of insurance, allow you to accurately assess the risks in the vehicle. Using television sets, real-time data collected allows insurance companies to clarify the customer's risk, the customer's risk profile.

Insurance companies see big data as the basis of their upcoming business model and tariff policy. In France, a number of insurance groups began implementing multichannel (omnichannel strategies) strategies and used big data and artificial intelligence technology to analyze sales more efficiently, including forecasting the volume of sales of insurance products.

In the context of modern economics, data-driven management (data-driven) and the application of machine learning (machine learning, ML) are modern megatrends resulting from the expansion of digitization of society and the economy. The main factor in the introduction of machine learning in all areas is the need to reduce costs. Although today the insurance industry is also in some way lagging behind the "trend leaders", it is no exception.

The use of cognitive technology not only increases the speed of data processing and the process of making conscious decisions, but also allows you to identify such claims at the stage of initial analysis of information.

Since the benefits of insurance companies are determined by the cost of covering insurance events, the application of algorithms to detect anomalies inherent in fraudulent operations can significantly reduce costs. As an example, the German insurance company Allianz SE 2 times reduced the likelihood of unjustified payments due to an analytical system based on modern methods, choosing cases that check calculations before payment, signs of deviations from patient management standards.

Customers of insurance companies are also interested in technological innovations, as they suit the needs of customers and facilitate interaction with insurers. This was mentioned in the Insurance Europe report about the European insurance industry's vision of artificial intelligence. Research conducted by the consulting company Accenture, which specializes in the introduction of Information Technology in business processes, has been speculated that the introduction of artificial intelligence technologies would be one of the main ways for the insurance business to combat low customer loyalty.

According to the forecasts of experts, machine learning algorithms are common in various sectors of the insurance industry, working to improve efficiency and improve the quality of Service. Currently, the main areas of application of ML in world practice are:

- underwriting (underwriting) – risk assessment;
- optimization of tariffs "for the client";
- prevention of severe insurance cases;
- fraud detection and prevention (anti-fraud).

The task of underwriting is probably the most promising system for applying ML technologies and analyzing large data. In the process of forming insurance tariffs, it is used to calculate the probability of an insurance event and assess the potential risk.

The application of machine learning technologies is optimal for this task, since insurance solutions are mainly related to the history of previous calls and rely on a large data set. Cognitive systems help curators effectively investigate cases, assess them more accurately, and make more informed decisions.

One of underwriter's most important tasks when considering an application is risk assessment. Large data analysis, latent processes and the involvement of complex ML algorithms that determine uncertainty, of course, outweigh the possibilities of "classical" methods based only on statistical models.

One of the most relevant practical tasks is forecasting high cost claimants (high-cost claimants – HiCCs) – a relatively small group of patients who make up an disproportionately large proportion of insurance claims. High medical costs for such patients often occur as part of emergency treatment, while there will be previous intervention options that reduce costs and prevent acute conditions. The potential of predictive models based on ml methods to solve the problem of identifying such patients has been studied in a number of serious scientific publications.

Researchers and modellers agree that the predictive effectiveness of risk assessment and identification of patients with specific (in the long run – high cost) needs is cost-effective. The conclusions of the scientific and analytical community were successfully confirmed in practice.

Thus Accolade Inc. positions its Maya Intelligence product as a ML technique-based platform promoting conscious choice in health, for example by recommending an optimal insurance option (tailored to the customer's quality of life needs and at the same time reducing health care costs). The platform collects patient data (including medical statements, biometric data results, Risk Assessment, social data) and builds their profiles on which a health plan recommendation is developed. Accolade reports in his study that Temple University Health System was able to save \$ 9.8 million for the second year he worked with the company. This was achieved mainly due to the fact that university employees initially ignored preventive visits from a doctor, and the referral system, carried out on the basis of analysis of patient profiles, allowed to choose the optimal strategy of medical examinations and corrective interventions.

An example of the successful introduction of methods based on big data analysis into health insurance is the American startup Insurtech Collective Health, which uses machine learning to identify risks and provide participants with the necessary medical recommendations. The machine learning-based model combines insurance claims, access to medical services and many other information into a holistic profile of each participant in the program. Based on this profile, the need for a certain type of medical services is assessed, for example, the organization of home care or consultation with specialized specialists.

Allianz SE of Germany uses machine learning models for its quotes from corporate clients. The accuracy of forecasting increases with an increase in the number of factors affecting the likelihood of an insurance event, which, in turn, determines the cost of the contract. In addition, the large data collected in the interpretation of the

model results also revealed new signs and inaccuracies, which were an additional advantage of the company's product.

In general, as for domestic reality, we can safely assume that, despite the fact that insurance products lag behind global trends, in a few years there will be a high demand for machine learning in the insurance industry as a means of management and analytical decision-making.

Since health insurance products are considered a product with a high degree of harmfulness, they are sold by large insurance companies. Thus, in 2020, the supervisory authorities of insurance companies introduced the technology of automatic verification of accounts from medical institutions. Mains Lab's decision is intended to track medical care cases in part or in full.

## CONCLUSION

In conclusion, by introducing the latest decision support technologies in business processes, it can be noted that insurance companies that accept modern problems can achieve development in the future, both in terms of loyalty satisfied with the favorable conditions of customers and in terms of cost savings in solving insurance claims.

I would like to note that the insurance industry has a lot of accumulated statistics. World insurance practices according to experts, domestic insurers use no more than 15% of the available data. At the same time, world experience shows that the really important uncertainties present in data arrays have been missed in this way.

It is possible to assemble a Bank of depersonalized medical data on predictive analysis and risk management platforms, and using machine learning models and other approaches in the field of artificial intelligence, we can form patient personal profiles and identify their risk groups, forecast possible health disorders and, ultimately, determine if the patient needs medical care. By forming such forecasts, the health system's focus can be on patients with high risk levels so that preventive medical care can be provided. We see a certain prospect that such tools may be required by insurance companies, who, like no one else, are interested in avoiding serious health complications and related costs of the patient.

Thus, we can conclude that the implementation of digital solutions is an inevitable process. It is important to apply these innovations to different business processes at the same time, since if only one element of insurance activity is digitized, the effect of transformation can be compensated for by an outdated approach to organizing other processes in the company. All processes in the insurance business are highly interconnected. Therefore, the complex introduction of digital innovations alone leads to a positive result that can be achieved.

Summarizing all of the above, it can be noted that when analyzing the opinion of the heads of domestic and World insurance companies, in general, the effectiveness

of all initiatives carried out to change the business is positively assessed. This reaffirms the need for insurers to follow the trend of digitization to maintain their competitiveness. It can be assumed that due to the desire of insurance companies to increase the share of online sales, this trend will continue and the possibility of implementing active projects in companies through the introduction of digital technologies will arise.

In conclusion, when conducting research on the topic of ways to develop the life insurance industry through digitization, the following can be noted:

- insurance has experienced several fundamental technological innovations in the process of stages of development, in particular, the implementation of actuarial calculations has become the basis of modern business; the use of the labor of insurance intermediaries, which formed the basis of mass insurance; the application of computers that simplify the implementation of basic business activities in insurance, etc;

- internalization of the insurance industry is the development of direct insurance activities in the following areas: sale of insurance products on an online basis; automated settlement of insurance claims; collection of information about insurers over the Internet;

- currently, the main areas of application of ML in world practice are: underwriting (underwriting) risk assessment; optimization of tariffs "for the client"; prevention of severe insurance situations; detection and Prevention of fraud (anti-fraud);

- it is necessary to digitize the system of voluntary health insurance of potential customers in the insurance market and put into practice the implementation of its ecosystem through the following stages;

- In Uzbekistan, the roboadviser platform used in the international financial market should be introduced as a new business model when directing funds in the portfolio of life insurance companies to the stock market;

- It is advisable to introduce a system of compulsory annuity insurance (Additional Pension Insurance) in Uzbekistan in order to prevent the immortality of the population and ensure the social protection of the elderly layer;

- in order to increase the level of pension provision of citizens, it is advisable to introduce new types of long-term life insurance, voluntary pension insurance mechanisms that protect against inflation factors;

- in order to introduce social protection of the population, additional pension provision and attract additional funds to the economy, the amount of the amount of Social tax accrued by the employer of the income of an individual from the parts of the legal entity directed to organizations in the field of life insurance under voluntary pension insurance contracts should also be directed to voluntary pension insurance contracts.

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